

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1           1. (Original) A method for use in packet communication, comprising the steps of:  
2           encapsulating contents of a first Ethernet packet received at a port of a switch of a  
3           metropolitan area Ethernet network in at least one encapsulating Ethernet packet that is to  
4           traverse said metropolitan area Ethernet network; and  
5           assigning the source address of said at least one encapsulating Ethernet packet to  
6           be the address of said port at which said packet was received.

1           2. (Original) The invention as defined in claim 1 wherein said contents of said  
2           first Ethernet packet is the entirety of said first Ethernet packet.

1           3. (Original) The invention as defined in claim 1 wherein said contents of said  
2           first Ethernet packet is a portion of said first Ethernet packet.

1           4. (Original) The invention as defined in claim 1 wherein said encapsulating and  
2           assigning steps are performed in an Ethernet switch of said metropolitan area Ethernet  
3           network at an interface between said metropolitan area Ethernet network and another  
4           Ethernet network.

1           5. (Original) The invention as defined in claim 1 wherein said encapsulating and  
2           assigning steps are performed in an Ethernet switch of said metropolitan area Ethernet  
3           network at an interface between said metropolitan area Ethernet network, which serves a  
4           plurality of entities, and another Ethernet network, which serves only a single one of said  
5           entities.

1           6. (Original) The invention as defined in claim 1 further including the step of  
2           incorporating in said at least one encapsulating Ethernet packet an entity identifier which  
3           is a function of said address of said port at which said packet was received.

1           7. (Original) The invention as defined in claim 6 wherein said entity identifier is  
2 a virtual local area network (VLAN) tag.

1           8. (Original) The invention as defined in claim 1 wherein said encapsulating step  
2 is performed so that a first portion of said first Ethernet packet is encapsulated in said at  
3 least one encapsulating Ethernet packet and a second portion of said first Ethernet packet  
4 is encapsulated in at least a second encapsulating Ethernet packet that is to traverse said  
5 metropolitan area Ethernet network, the method further including the step of:  
6           assigning the source address of said second encapsulating Ethernet packet to be  
7 the address of said port at which said packet was received.

1           9. (Original) The invention as defined in claim 1 further including the step of:  
2           assigning said at least one encapsulating packet a destination address as a function  
3 of a stored association between the destination address of said first Ethernet packet and a  
4 destination address for said metropolitan area Ethernet network of a previously received  
5 Ethernet packet from said metropolitan area Ethernet network.

1           10. (Original) The invention as defined in claim 1 further including the step of:  
2           assigning said at least one encapsulating packet a destination address as a function  
3 of a stored association between the destination address of said first Ethernet packet and a  
4 port of said metropolitan area Ethernet network.

1           11. (Original) The invention as defined in claim 1 further including the step of:  
2           assigning said at least one encapsulating packet as at least one type from a set of  
3 types consisting of a broadcast packet and a multicast packet.

1           12. (Original) The invention as defined in claim 11 wherein said step of assigning  
2 said at least one encapsulating packet as a broadcast packet is performed when said first  
3 packet is a broadcast or a multicast packet.

1           13. (Original) The invention as defined in claim 11 wherein said step of assigning  
2 said at least one encapsulating packet as a broadcast packet is performed when there is no  
3 stored association between the destination address of said first Ethernet packet and a  
4 destination address for said metropolitan area Ethernet network of a previously received  
5 packet from said metropolitan area Ethernet network.

1           14. (Original) The invention as defined in claim 1 wherein said metropolitan area  
2 Ethernet network supports virtual local area network (VLAN) tags, and wherein said first  
3 Ethernet packet is a broadcast or multicast packet, the method further comprising the step  
4 of:

5           incorporating an entity identifier which is a function of said address of said port at  
6 which said first Ethernet packet was received as a VLAN tag in said encapsulating  
7 packet; and

8           assigning said at least one encapsulating packet as a broadcast packet.

1           15. (Original) An edge switch for use in a metropolitan area Ethernet network  
2 having ports adapted to be coupled to at least one local area Ethernet network, said edge  
3 switch comprising:

4           at least one port for receiving inner Ethernet packets from at least one of said local  
5 area Ethernet networks and for transmitting inner Ethernet packets to said at least one of  
6 said local area Ethernet networks, said at least one port being one of said ports of said  
7 metropolitan area Ethernet network; and

8           a memory for establishing a correspondence association between addresses within  
9 said at least one local area Ethernet network and addresses of said ports in said  
10 metropolitan area Ethernet network.

1           16. (Original) The invention as defined in claim 15 wherein given an address of a  
2 particular one of said addresses within said at least one local area Ethernet network said  
3 switch is operable to retrieve said corresponding associated one of said addresses of said  
4 ports in said metropolitan area Ethernet network.

1           17. (Original) The invention as defined in claim 15 wherein said memory further  
2 associates a time stamp with each said associated address within said at least one local  
3 area Ethernet network and address of said ports in said metropolitan area Ethernet  
4 network.

1           18. (Original) The invention as defined in claim 15 further comprising a virtual  
2 local area network (VLAN) tag marker.

1           19. (Original) The invention as defined in claim 15 further comprising a memory  
2 associating said at least one port of said metropolitan area Ethernet with an entity.

1           20. (Original) The invention as defined in claim 15 further comprising a packet  
2 stripper that extracts said inner Ethernet packets from encapsulating packets for  
3 transmission to said local area Ethernet via said port.

1           21. (Original) The invention as defined in claim 15 further comprising:  
2 a packet stripper that extracts at least a respective portion of a one of said inner  
3 packets from at least two different encapsulating packets; and  
4 an inner packet reassembler that receives said portions of said inner packet from  
5 said packet stripper and reconstructs therefrom said one of said inner packets.

1           22. (Original) The invention as defined in claim 15 further comprising:  
2 a memory writer for forming an association in said memory between a received  
3 encapsulating packet's source address and a source address of an inner packet within said  
4 encapsulating packet.

1           23. (Original) The invention as defined in claim 15 further comprising:  
2 an encapsulator that embeds each of said received inner packets as a payload in at  
3 least one encapsulating packet and places the address of said at least one port within the  
4 source address field of said at least one encapsulating packet.

1           24. (Original) The invention as defined in claim 23 wherein said encapsulator  
2 further places within the destination address field of said at least one encapsulating packet  
3 an address of said metropolitan area Ethernet network that is associated within said  
4 memory with a destination address of said inner packet.

1           25. (Original) The invention as defined in claim 23 wherein said encapsulator  
2 further places within the destination address field of said at least one encapsulating packet  
3 an indication that said encapsulating packet is a multicast packet when there is no address  
4 of said metropolitan area Ethernet network associated within said memory with a  
5 destination address of said inner packet.

1           26. (Original) The invention as defined in claim 23 wherein said encapsulator  
2 further places within the destination address field of said at least one encapsulating packet  
3 an indication that said encapsulating packet is a broadcast packet when there is no address  
4 of said metropolitan area Ethernet network associated within said memory with a  
5 destination address of said inner packet.

1           27. (Original) The invention as defined in claim 23 further comprising:  
2 a virtual local area network (VLAN) tag marker; and  
3 wherein said encapsulator further places within the destination address field of  
4 said at least one encapsulating packet an indication that said encapsulating packet is a  
5 broadcast packet when there is no address of said metropolitan area Ethernet network  
6 associated within said memory with a destination address of said inner packet, and said  
7 VLAN tag marker marks said encapsulating packet with a VLAN tag corresponding to an  
8 entity associated with said port at which said inner packet was received.

1           28. (Original) Program code in computer readable form for use in processing  
2 Ethernet packets, said computer readable program code comprising:

3 a module for encapsulating contents of a first packet received at a port of a  
4 metropolitan area Ethernet network in at least one encapsulating Ethernet packet that is to  
5 traverse said metropolitan area Ethernet network; and

6 a module for assigning the source address of said at least one encapsulating  
7 Ethernet packet to be the address of said port at which said packet was received.

1           29. (Original) Apparatus for use in providing metropolitan area Ethernet service,  
2 comprising:

3           means for encapsulating contents of a first packet received at a port of a  
4 metropolitan area Ethernet network in at least one encapsulating Ethernet packet that is to  
5 traverse said metropolitan area Ethernet network; and

6           means for assigning the source address of said at least one encapsulating Ethernet  
7 packet to be the address of said port at which said packet was received.

1           30. (Original) A metropolitan area Ethernet network, said metropolitan area  
2 Ethernet network comprising:

3           a plurality of edge switches, each of said edge switches being coupled to at least  
4 one of a plurality of local area networks (LANs) at ports of said edge switches, wherein,  
5 said edge switches encapsulate contents of inner packets received from said LANs into at  
6 least one encapsulating Ethernet packet, said encapsulating Ethernet packet employing as  
7 a source address an address of a one of said ports of said edge switch at which its  
8 encapsulated inner packet was received; and

9           at least one core switch for switching said encapsulating packets;

10          wherein each of said plurality of edge switches is coupled to said at least one of  
11 said core switches.

1           31. (Original) A method for use in packet communication, comprising the steps  
2 of:

3           dividing a first Ethernet packet having a source address and a destination address  
4 that is received at a port of a metropolitan area Ethernet network into first and second  
5 parts, said first and second parts being taken from portions of said first Ethernet packet  
6 exclusive of said source address and said destination address;

7           encapsulating said first and second parts in at least two respective encapsulating  
8 Ethernet packets that are to traverse said metropolitan area Ethernet network;

9           assigning the source address of each of said encapsulating Ethernet packets to be  
10 the address of said port at which said first packet was received;

11          assigning the source address of said first Ethernet packet as an inner source  
12 address of each of said encapsulating packets; and

13          assigning the destination address of said first Ethernet packet as an inner  
14 destination address of each of said encapsulating packets.

1           32. (Original) The invention as defined in claim 31 wherein first and second parts  
2 taken from portions of said first packet are divided at a point that is a function of a  
3 random number generator with a prescribed distribution.

1           33. (Original) A method for use in packet communication, comprising the steps  
2 of:

3           receiving at least first and second encapsulating packets at an edge switch of a  
4 metropolitan area Ethernet network, each of said encapsulating packets containing a  
5 portion of data and/or cyclic redundancy check of a first inner packet that was fragmented  
6 into at least first and second encapsulating packets for transport via said metropolitan area  
7 Ethernet network; and

8           reassembling said first inner packet using said portions of data and/or cyclic  
9 redundancy check contained within said first and second encapsulating packets.

1           34. (Original) The invention as defined in claim 33 wherein said first inner packet  
2 contained a source address and a destination address and each of said encapsulating  
3 packet further contains said source address and said destination address of said first inner  
4 packet.

1           35. (Original) A method for use in packet communication comprising the steps of:  
2 encapsulating a first portion of an inner Ethernet packet received at a port of a  
3 metropolitan area Ethernet network into a first encapsulating Ethernet packet;

4           encapsulating a second portion of said inner Ethernet packet into a second  
5 encapsulating Ethernet packet when said first encapsulating Ethernet packet would  
6 exceed a prescribed Ethernet maximum packet length if said first portion was the entirety  
7 of said inner Ethernet packet; and

8           assigning the source address of said first encapsulating Ethernet packet to be the  
9 address of said port at which said packet was received.

1           36. (Original) The invention as defined in claim 35 further comprising the step of  
2   assigning the source address of said second encapsulating Ethernet packet to be the  
3   address of said port at which said packet was received when said first encapsulating  
4   Ethernet packet would exceed said prescribed Ethernet maximum packet length if said  
5   first portion was the entirety of said inner Ethernet packet.

6  
1           37. (Original) The invention as defined in claim 36 further comprising the steps  
2   of:  
3           assigning a first sequence number to said first encapsulating Ethernet packet; and  
4           assigning a second sequence number different from said first sequence number to  
5   said first encapsulating Ethernet packet.

6  
6           38. (Currently amended) The invention as defined in claim 36 wherein the length  
7   of said first portion and the length of said portion is selected ~~is selected~~ so that said first  
8   and second encapsulating packets conform to a prescribed distribution for lengths of  
9   encapsulating packets.